

Navigating the New Lighting Landscape

June 3–5, 2014

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U.S. Department of Energy

Things Are Moving Fast Now



Moving to the Mainstream

**The
New York
Times**

“New Reasons to
Change Light Bulbs”

**Consumer
Reports**

“Slice your bills without
sacrificing comfort”

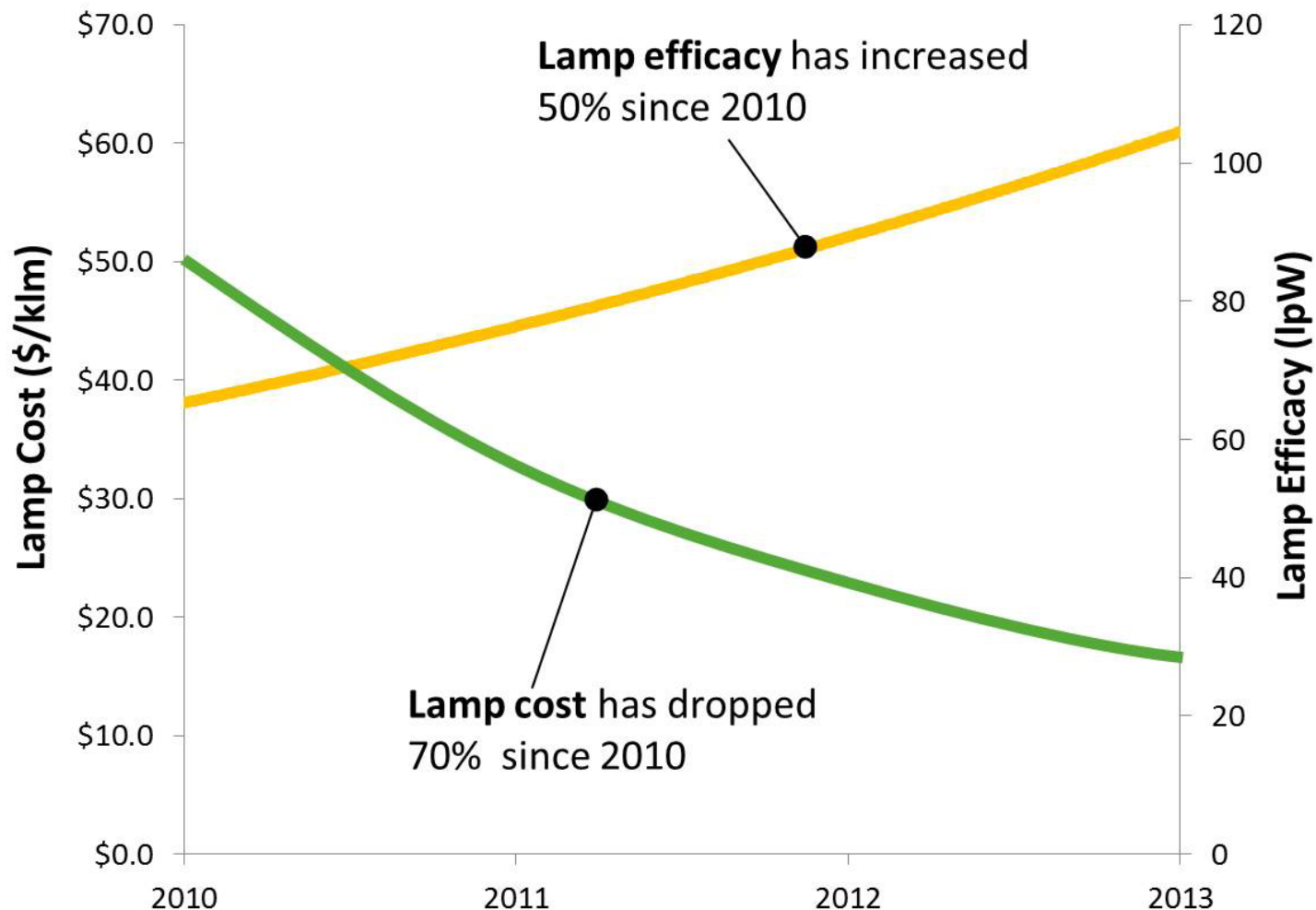


A·L ARCHITECTURAL LIGHTING

“It’s the End of the Bulb as We Know It
(and EISA Feels Fine)”

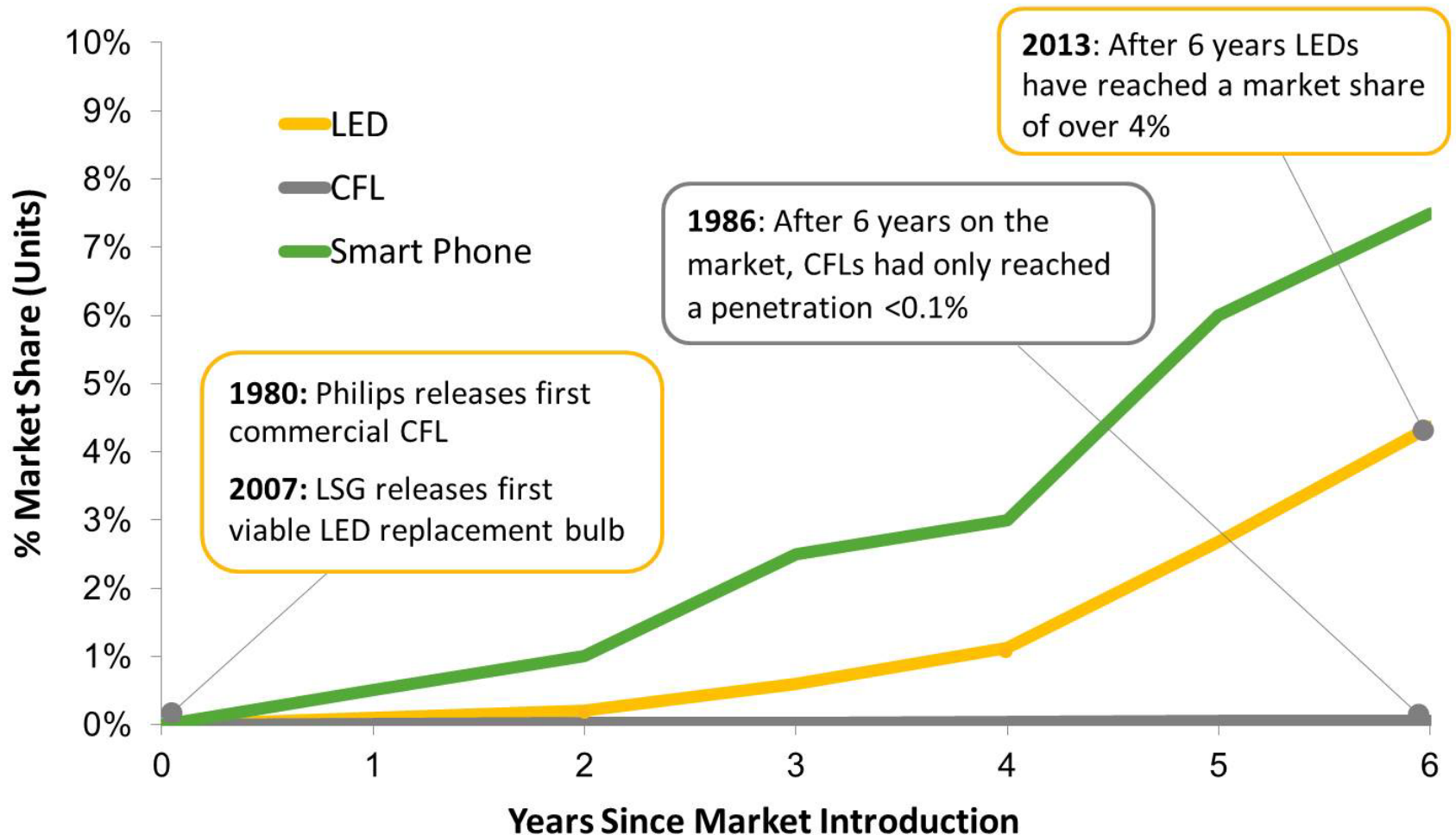
LED 60W Lamp Cost and Efficacy Trends

Similar trend lines emerging for other applications

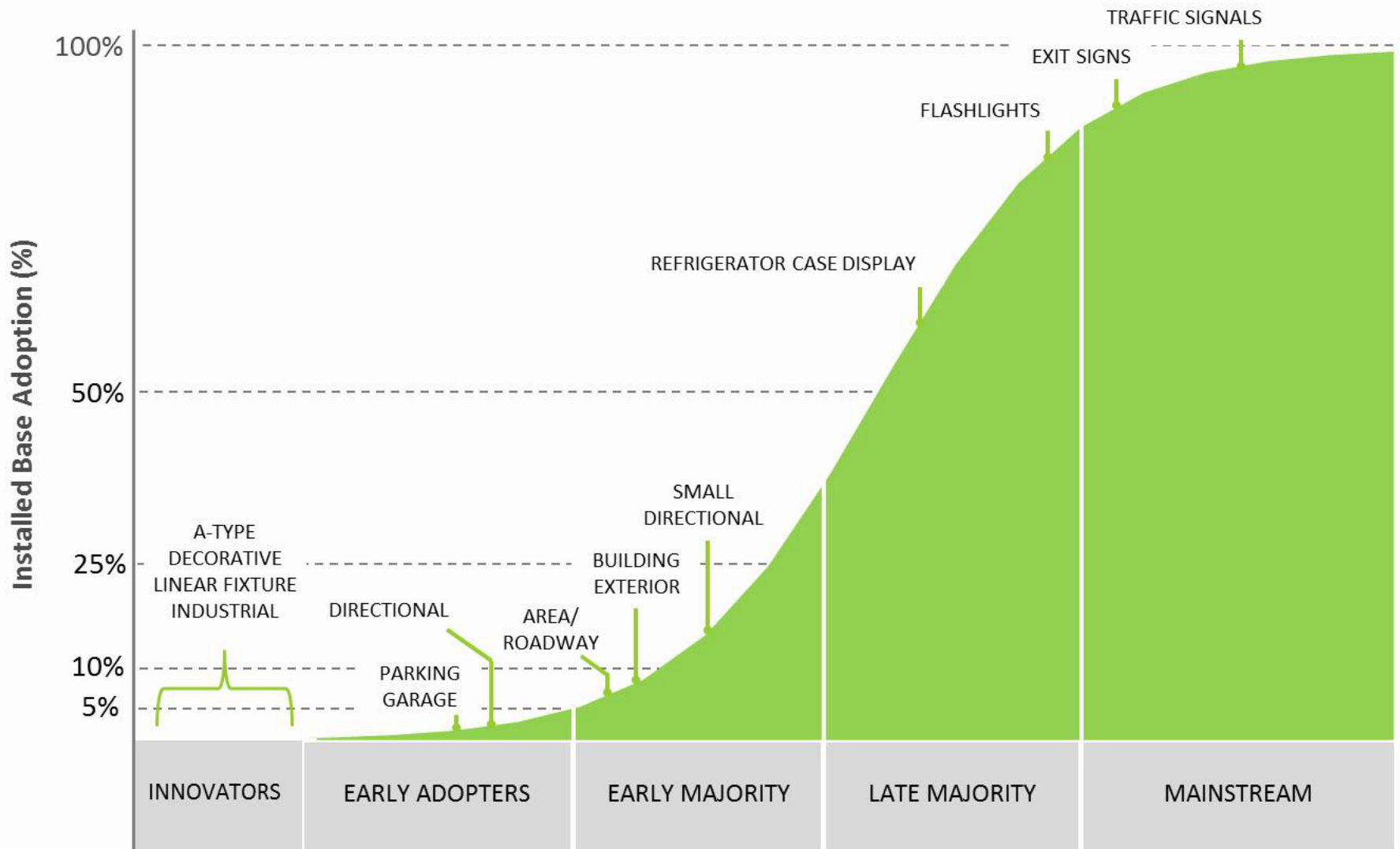


LEDs Tracking Ahead of CFLs

Market growth not mimicking that of the typical household product

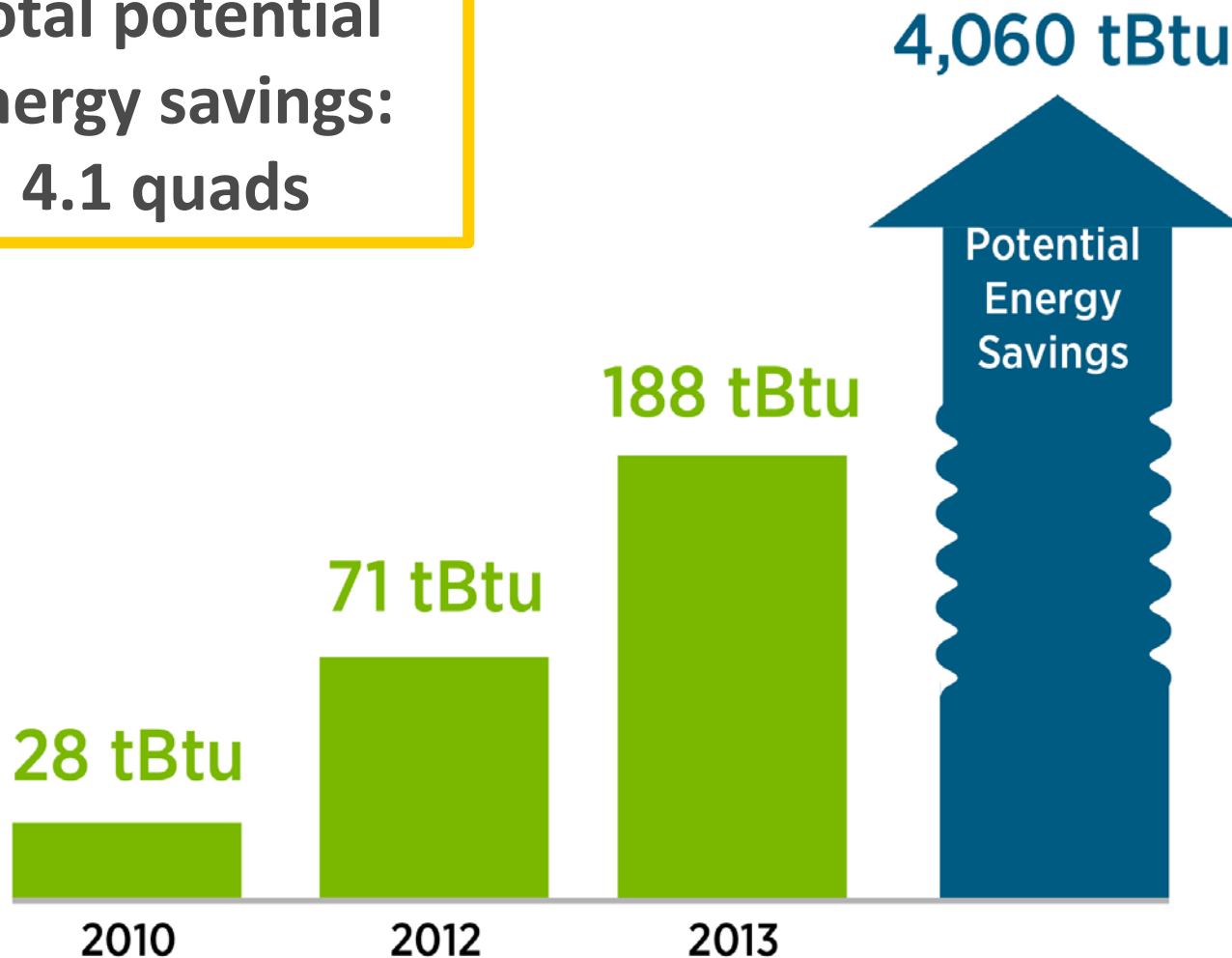


The Evolution of Adoption: It Takes Time



SSL Saving Energy Today

Total potential
energy savings:
4.1 quads

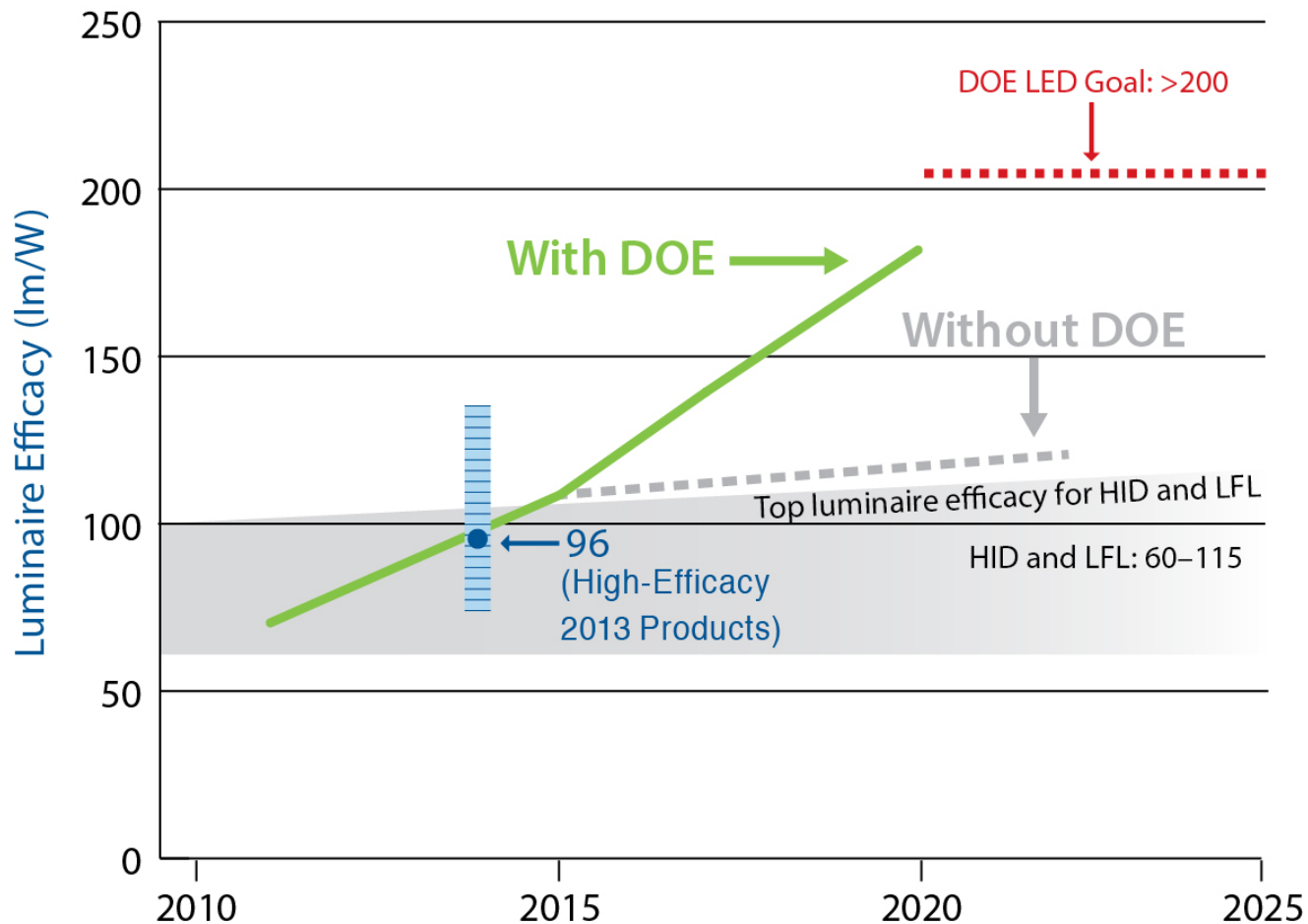


Still a Relatively Young Technology



Much Left to Do

Tremendous progress to date, but only halfway there



Beyond the Mainstream: What Else Can It Do?



DIGITAL TRENDS

“[LED] Light Bulbs
Could Replace Your
Wi-Fi Router”

**The
New York
Times**

“New Technology
Inspires a
Rethinking of Light”



**SCIENTIFIC
AMERICAN™**

“Casting [LED] Light on
Astronaut Insomnia”

New Form Factors



Project: Holt Renfrew, Bloor Street, Toronto, Women's Designer on 2
Lighting Design: Lightbrigade Architectural Lighting Design
Interior Designer: Burdifilek
Photograph: A-Frame Studio / Ben Rahn Photographer

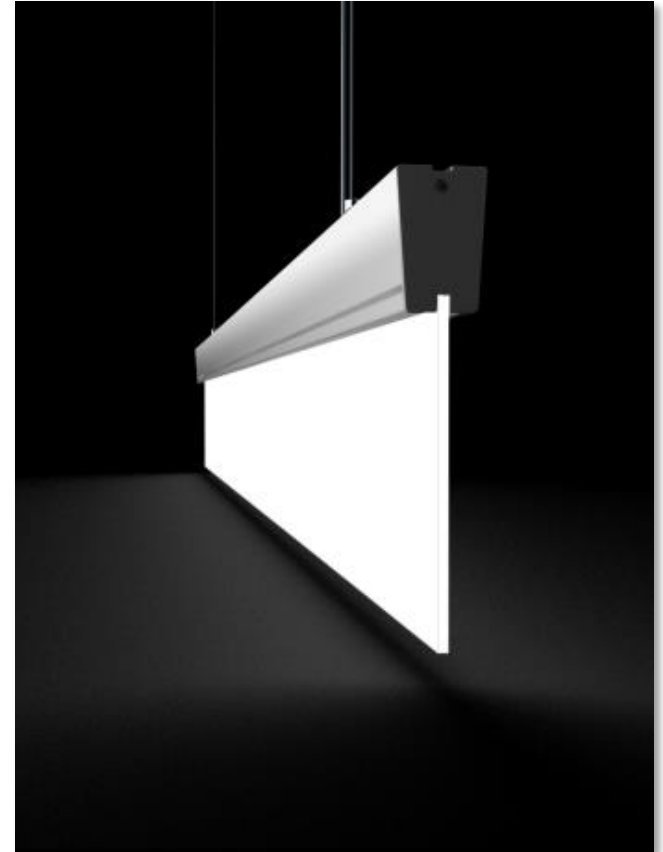


Source: Acuity Brands

New Form Factors



Source: Fred Maxik, Lighting Science



Source: GE Lighting

Integrated Controls



- Integrated motion and ambient light sensors
- Daylight harvesting
- Vacancy sensing



Integrated Intelligence

retail **lighting system**

Philips pilots new system that uses intelligent LED in-store lighting to communicate with shoppers smartphones to deliver targeted offers and information based on their location

David has decided to cook a Mexican meal for his friends this evening.

1.

He chooses guacamole in the supermarket app he downloaded. It suggests a recipe for fresh guacamole that he accepts

5.

The light fixture communicates his location and the app plots a route to the churros



Uses LED lights to communicate location-based information to shoppers via smartphones

SECTIONS HOME SEARCH

THE NEW YORK TIMES


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BUSINESS DAY

At Newark Airport, the Lights Are On, and They're Watching You

By DIANE CARDWELL FEB. 17, 2014



Visitors to Terminal B at [Newark Liberty International Airport](#) may notice the bright, clean lighting that now blankets the cavernous interior, courtesy of 171 recently installed LED fixtures. But they probably will not realize that the light fixtures are the backbone of a system that is watching them.

Using an array of sensors and eight video cameras around the terminal, the light fixtures are part of a new wireless network that collects and feeds data into software that can spot long lines, recognize license plates and even identify suspicious activity, sending alerts to the appropriate staff.

The project is still in its early stages, but executives with the [Port Authority of New York and New Jersey](#), which operates the airport, are already talking about expanding

This LED-based light fixture can gather and transmit data for automated analysis.
Peter DaSilva for The New York Times

So How Can DOE Help?



Unbiased, Vendor-Neutral Resources

- Testing, demonstrations, and analysis expand our knowledge base
 - Guide manufacturers and product improvements
- Buyer guidance informs decision-making
- Design competitions drive innovation, draw attention to well-designed products
- Workshops, roundtables, working groups identify needs, address critical issues

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Using LED products

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lifetime and reliability**

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June 3-5, 2014
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[DOE Publishes CALIPER Report on Linear \(T8\) LED Lamps in a 2x4 K12-Lensed Troffer](#)

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